

**AMENDMENTS TO THE SPECIFICATION**

Please add the following Abstract to the application:

**ABSTRACT**

There is disclosed a laser comprising a laser medium comprising  $H_2(1/p)$  where  $p$  is an integer and  $1 \leq p \leq 137$ , a cavity comprising the laser medium, and a power source to form an inverted population in the energy level of  $H_2(1/p)$ . The power source may form excited vibration-rotational levels of  $H_2(1/p)$  wherein lasing occurs with a stimulated transition from at least one vibration-rotational level to at least another lower-energy-level other than one with a significant Boltzmann population at the cell neutral-gas temperature, wherein the vibration-rotational levels of  $H_2(1/p)$  comprise the inverted population.